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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,757	01/14/2004	Steven Maddocks	200315416-1	4254
22879 7590 04/17/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER PEYTON, TAMMARA R				
ART UNIT 2182		PAPER NUMBER		
NOTIFICATION DATE 04/17/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/757,757

Applicant(s)

MADDOCKS ET AL.

Examiner

TAMMARA R. PEYTON

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-18, 21, 22, 24, 25, 27-33 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-18, 21, 22, 24, 25, 27-33 and 35-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-17, 25, 26, 28, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) and Dimitroff, (US 6,212,606) and further in view of Suzuki et al., (US 7,003,567).

The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541,550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

As per claims 12, 13, and 35, Blumenau teaches a method comprising: receiving, by an interface manager (34, Fig. 3/6) in a storage system, device information from a plurality of interface controllers operatively associated with storage system devices in the storage system, the device information (device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, lines 62-col. 9, lines 1-16) relating to the storage system devices (38a-38d, col. 8, lines 62-col. 9, lines 1-16); generating, by the interface manager, a logical map identifying at least some of the storage system devices based on the device information; assigning, by the interface manager, the logical map (of the devices connected on the network and each devices share-ability) to at least one host separate from the interface manager to enable access by the at least one host of the storage system device; obviously monitoring for a change in a state of the storage system devices; and in response to the change, modifying the logical map.

Blumenau teaches a graphical user interface (GUI) that provides a user with the ability to graphically view the availability and assignment of data storage volumes to different hosts in a storage network. The GUI also allows a user to graphically view the topology of the network, such as hosts, storage systems, and storage system disk adapters. Advantageously, the GUI permits network devices and the availability and assignment of storage volumes on a storage system to be viewed, managed, and modifies the topology.

Further, Blumenau discloses a storage network having a user input to deny and grant access permissions for the host to the data access drivers and transfer robotics (Blumenau: abstract; Column 17, Lines 44- 60) However, Blumenau does not explicitly disclose a graphical user interface displaying a logical map of the data access drivers and transfer robotics.

Nonetheless, Dimitroff discloses security and access parameters (Col. 3, Lines 34-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60) which perform the same action as a logical map, which is enabling and disabling user access of system devices.

Both references (Blumenau and Dimitroff) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau with the teachings of Dimitroff to show the security and access parameters in the graphical user interface of Blumenau. One would readily recognize that it would have been motivation for Blumenau to show the security and access parameters for security and to give the user recognition of areas allowed to be modified. Furthermore, Examiner believes that Blumenau and Dimitroff (col. 2, lines 56-col. 3, lines 1-22) would obviously monitor the devices connected to the system in order to further modify the logical map. Nonetheless, Suzuki clearly discloses frequently polling the connected devices on a storage network (Fig. 8a/8b) and displaying and monitoring a change state of a selected device. (Suzuki, col. 3, lines 40-col. 5, lines 1-42)

The references (Blumenau and Dimitroff and Suzuki) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau-Dimitroff with the teachings of Suzuki to frequently polling and monitor a change state of a selected device with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff to monitor the change of activities of the connected devices and to display the modified configurations of the storage network via a graphical user interface.

As per claims 14-17, Dimitroff teaches propagating management commands (claim 14), routing and formatting transactions (claim 15), and scheduling access for the host and device controllers (claim 16 and 17) via a plurality of distinct parameters of the storage devices wherein the distinct parameters comprises a security parametric, an access parametric, an availability parametric, an ownership parametric, and a management parametric. (Col. 2, lines 57- Col. 3, Lines 34-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60)

As per claims 25, 28, 32, 36, 39-41, Blumenau teaches an interface manager (34, Fig. 3/6) for use in a storage system, comprising: at least a first port (Fig. 3) to communicate with controllers (device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, lines 62-col. 9, lines 1-16) operatively associated with storage system devices (38a-38d, col. 8, lines 62-col. 9, lines 1-16) of the storage system; at least one network port (Fig. 3 or Fig. 6, obvious network port, 0 or 1, col. 6, lines 41-45) to communicate with a host (12, 14, Fig. 1c) external to the storage system; and at least one control (processor, 80, of Fig. 3) element to: receive device information from the controllers, generate at least one logical map (of the devices connected on the network and each devices share-ability) based on the received device information, and assign the at least one logical map to the host to allow the host to access one or more of the storage system devices.

Blumenau teaches a graphical user interface (GUI) that provides a user with the ability to graphically view the availability and assignment of data storage volumes to different hosts in a storage network. The GUI also allows a user to graphically view the topology of the network, such as hosts, storage systems, and storage system disk adapters. Advantageously, the GUI permits network devices and the availability and assignment of storage volumes on a storage system to be viewed, managed, and modifies the topology.

Further, Blumenau discloses a storage network having a user input to deny and grant access permissions for the host to the data access drivers and transfer robotics (Blumenau: abstract; Column 17, Lines 44- 60) However, Blumenau does not explicitly

disclose a graphical user interface displaying a logical map of the data access drivers and transfer robotics.

Nonetheless, Dimitroff discloses security and access parameters (Col. 3, Lines 34-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60) which perform the same action as a logical map, which is enabling and disabling user access of system devices. Further, Dimitroff clearly discloses wherein the received device information includes at least one of numbers and types of storage system devices (col. 2, lines 35 col. 3, lines 1 -14) connected to the controllers, and capacities of storage system (col. 5, lines 45-67) devices in the storage system. (Note claim 39 and 40)

Both references (Blumenau and Dimitroff) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau with the teachings of Dimitroff to show the security and access parameters in the graphical user interface of Blumenau. One would readily recognize that it would have been motivation for Blumenau to show the security and access parameters for security and to give the user recognition of areas allowed to be modified. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau with the teachings of Dimitroff to provide device information includes at least one of numbers and types of storage system devices (col. 2, lines 35 col. 3, lines 1 -14) connected to the controllers,

and capacities of storage system (col. 5, lines 45-67) devices in the storage system. One would readily recognize that it would have been motivation for Blumenau to monitor the capacity availability and performance availability capabilities of the connected storage devices because doing so would allow for the performance availability capability of the storage device to be dynamically controlled. (col. 5, lines 45-67)

As per claims 33, please note rejection for claim 12 in view of Suzuki.

Claims 38 and 42, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) and Dimitroff, (US 6,212,606) and further in view of Suzuki et al., (US 7,003,567) and Applicant's Admission of Prior Art.

As per claims 38 and 42, Blumenau and Dimitroff wherein the state of the storage system devices includes one or more of removing a storage system device i.e. being taken offline. Further, Suzuki teaches wherein a state of a cable is monitored and the connection line is indicated by the broken line. (Suzuki, col. 4, lines 43-55) Nonetheless, noting that a physical layout has changed (e.g., a drive is taken offline) has been disclosed in AAPA. Therein, the references (Blumenau and Dimitroff and Suzuki and AAPA) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via

logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau-Dimitroff-Suzuki with the teachings of AAPA to note if a physical layout on a storage network has changed (e.g. a drive is taken offline) with specifically Suzuki that frequently polls and monitor a change state of a selected device with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff-Suzuki to monitor the change of activities of the connected devices and to display the modified configurations of the storage network via a graphical user interface.

Claims 18, 21,22, 24, 27-31, 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) in view of Dimitroff, (US 6,212,606) and in further view of and Yung et al., (US 2004/0032430A1).

As per a phone call to Applicant regarding claim 21 after further consideration claim 21 is currently rejected.

As per claims 18, 21,22, 24, 27-31, and 37, Blumenau-Dimitroff teaches a storage network comprising:

an automated storage system including data access drives and transfer robotics, wherein the data access drives are to access data on data storage media, and wherein the transfer robotic are to transfer data storage media in the automated storage system

the interface manager to generate a logical map of the automated storage system based on aggregating configuration information for the data access drives and a device manager to communicate with the plurality of interface controllers. (note rejection above) Further, Blumenau-Dimitroff both teach an external system manager (34, Blumenau), which communicates with two or more disk adapter controllers (Dimitroff: device controllers, 112, 114, Fig.2, col. 2, lines 35- 55 operatively associated with storage system devices, 118, Fig. 1 of the storage system, Blumenau: device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, lines 62-col. 9, lines 1-16 operatively associated with storage system devices 38a-38d, col. 8, lines 62-col. 9, lines 1-16 of the storage system) that gathers and manages the access data and the configuration data relating to the physical drives and logical volumes of each disk adapter controller. Further, Blumenau and Dimitroff teach wherein the logical map is used by hosts (controllers) to allow access of the data access drives and the transfer robotics by the hosts.

However, Blumenau and Dimitroff are both silent in respect to the at least one control element includes a management application program interface (API) to generate management commands for the controllers and wherein the management API schedules access to data access drives and transfer robotics.

Nonetheless, Yung teaches a plurality of interface controllers operatively associated with the data access drives and transfer robotics (Yung, (0008, 0011- 0014, and 0037); an interface manager communicatively coupled to each of the

plurality of interface controllers, a storage system based on aggregating configuration information for the data access drives and transfer robotics; (0011- 0014, 0055, and 0071,0072) and a pipeline (0049, 0050) provided as computer readable program code in computer-readable storage at the interface manager, the pipeline including: a command router to format transactions for the interface controllers; a management application program interface (API) (0037 and 0094) to generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers.

Applicant arguments filed 1/29/09 with respect to Yang in combination with Blumeanu-Dimitroff (and Sukuki, claim 18) have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the applicant argues that Yung " is related to providing a user interface "for relatively large biological laboratories that have many instruments of different types." Yung, Abstract.

However, Yung seeks to address the problem of a plurality of interface controllers operatively associated with the data access drives and transfer robotics

(Yung, (0008, 0011- 0014, and 0037)); an interface manager communicatively coupled to each of the plurality of interface controllers by having a storage system based on aggregating configuration information for the data access drives and transfer robotics; (0011- 0014, 0055, and 0071,0072) and a pipeline (0049, 0050). Therein, Yang addresses the same problem as noted in the present application.

In response to applicant's argument that the Yang reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, one of ordinary skill in the art at the time of the invention would have appreciated the problem addressed by Yang implementation of a pipeline configuration and utilizing API generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers for data access drives and transfer robotics into Blumenau-Dimitroff's storage network system because doing so would provided improved communication with network devices using Yang's common user interface.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The examiner requests, in response to this office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line number(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application. When responding to this office action, applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. I .III(c).

In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view the state of the art disclosed

by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammara Peyton whose telephone number is (571) 272-4157. The examiner can normally be reached between 6:30 - 4:00.

from Monday to Thursday, (I am off every first Friday), and 6:30-3:00 every second Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272- 6729. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272- 2100.

/Tammara R Peyton/

Primary Examiner, Art Unit 2182

April 12, 2009